

Appl. No. : 6,767,695
Filed

October 2, 2000

connecting rod pivotally connecting the crankshaft with the piston, the piston having a pivot axis at which the connecting rod is pivotally coupled with the piston, the pivot axis generally lying within the center plane during at least one point of reciprocal travel of the piston within the cylinder bore, a cylinder head member closing an end of the cylinder bore and defining a combustion chamber with the cylinder bore and the piston, a first passage comprising at least two paths communicating with the combustion chamber, a first valve device comprising at least two valves arranged to selectively connect and disconnect the paths of the first passage with the combustion chamber, a second passage comprising at least one path communicating with the combustion chamber, the number of paths of the second passage being fewer in number than the number of paths of the first passage, and a second valve device comprising at least one valve arranged to selectively connect and disconnect the at least one path of the second passage with the combustion chamber, the first valve device being disposed closer to the center plane than the second valve device.

P1 Contd
P2 Contd

2. (Amended) The watercraft as set forth in Claim 1, wherein both the first and second valve devices exist on the same side of the center plane within the hull.

3. CANCELED

4. (Amended) The watercraft as set forth in Claim 1, wherein the piston reciprocates between a top dead center position and a bottom dead center, and the pivot axis generally lies within the center plane when the piston is at the top dead center position.

5. (Amended) The watercraft as set forth in Claim 1, wherein the second valve device comprises at least two valves.

6. (Amended) The watercraft as set forth in Claim 5, wherein the first valve device comprises three valves and the second valve device comprises two valves.

7. (Amended) The watercraft as set forth in Claim 1, wherein the paths of the first passage are arranged to introduce at least air to the combustion chamber and the at least one path of the second passage is arranged to receive exhaust gases from the combustion chamber.

8. (Amended) The watercraft as set forth in Claim 1 additionally comprising at least one camshaft arranged to actuate at least some of the valves, and the camshaft extending generally in parallel to the center plane.

9. (Amended) The watercraft as set forth in Claim 8, wherein the engine includes a first camshaft and a second camshaft, the first camshaft actuates at least the valves of the first

Appl. No. :

09/676,895

Filed

October 2, 2000

valve device, the second camshaft actuates at least the at least one valve of the second valve device, and the first camshaft lies closer to the center plane than does the second camshaft.

10. (Amended) The watercraft as set forth in Claim 8, wherein the camshaft has cam lobes configured to push the valves.

11. (Amended) The watercraft as set forth in Claim 1, wherein at least a portion of the first passage extends across the center plane.

12. (Amended) The watercraft as set forth in Claim 11, wherein the first passage is arranged to introduce the air into the combustion chamber.

13. (Amended) The watercraft as set forth in Claim 1, wherein at least a portion of the cylinder bore extends across the center plane.

14. (Amended) The watercraft as set forth in Claim 1, wherein the engine includes at least two cylinder bores, and the cylinder bores are spaced apart from each other along the center plane.

15. (Amended) The watercraft as set forth in Claim 1 additionally including an ignition control system that operates on a four-stroke cycle combustion principle.

16. (Amended) A watercraft comprising an internal combustion engine and a hull defining a center plane extending generally vertically from bow to stern, the internal combustion engine comprising a cylinder body mounted within the hull, the cylinder body defining at least one cylinder bore, a piston reciprocating within the cylinder bore, a crankshaft, a connecting rod pivotally connecting the crankshaft with the piston, the piston having a pivot axis at which the connecting rod is pivotally coupled with the piston, the pivot axis generally lying within the center plane during at least one point of reciprocal travel of the piston within the cylinder bore, a cylinder head member closing an end of the cylinder bore and defining a combustion chamber with the cylinder bore and the piston, the cylinder head member slanting toward one side of the hull from the center plane, a plurality of air intake paths introducing air to the combustion chamber, and at least one exhaust path receiving exhaust gases from the combustion chamber, the number of air intake paths being greater than the number of the exhaust paths, air intake valves arranged to selectively open and close the air intake paths, at least one exhaust valve arranged to open and close the at least one exhaust path, an intake camshaft arranged to actuate the intake valves, an exhaust camshaft arranged to actuate the exhaust valve, both the intake and

Appl. No. : 09/676,895
Filed : October 2, 2000

exhaust camshafts extending generally in parallel to the center plane, and the intake camshaft lying closer to the center plane than the exhaust camshaft.

*P1
P3
Cont'd*
17. (Amended) The watercraft as set forth in Claim 16, wherein at least a portion of at least one of the air intake passages extend across the center plane.

18. (Amended) The watercraft as set forth in Claim 16, wherein at least a portion of the cylinder bore extends across the center plane.

19. (Amended) The watercraft as set forth in Claim 16, wherein both the intake and exhaust camshafts lie on the same side of the center plane within the hull.

SC 10
Please add the following new claims:

20. (New) A watercraft comprising an internal combustion engine and a hull defining a center plane extending generally vertically from bow to stern, the internal combustion engine comprising a cylinder body defining at least one cylinder bore, a piston reciprocating within the cylinder bore, a crankshaft rotatably connected with the piston, a cylinder head member closing an end of the cylinder bore and defining a combustion chamber with the cylinder bore and the piston, a first passage comprising at least two paths communicating with the combustion chamber, a first valve device comprising at least two valves arranged to selectively connect and disconnect the paths of the first passage with the combustion chamber, a second passage comprising at least one path communicating with the combustion chamber, the second passage having a fewer in number of paths than that of the first passage, and a second valve device comprising at least one valve arranged to selectively connect and disconnect the at least one path of the second passage with the combustion chamber, the first valve device being disposed closer to the center plane than the second valve device, the crankshaft generally rotating about an axis that lies on one side of the hull as divided by the center plane, and both the first and second valve devices being disposed on the other side of the hull.

PP
21. (New) A watercraft comprising an internal combustion engine and a hull defining a center plane extending generally vertically from bow to stern, the internal combustion engine comprising a cylinder body mounted within the hull, the cylinder body defining at least one cylinder bore, a piston reciprocating within the cylinder bore, a crankshaft pivotally connected with the piston, a cylinder head member closing an end of the cylinder bore and defining a combustion chamber with the cylinder bore and the piston, a plurality of air intake passages